

Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

Brand: HALO COMMERCIAL

Report Number: P775806

Luminaire Tested: HCDJBL510CSD-HCD6TSQMB-1000lm-3000K

Issue Date: 2/7/2024

Test Information

Test Method: LM-79-2019
Report Number: P775806
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2312156B015-HCD6TSQMB)
Test Lab:
Issue Date: 2/7/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCDJBL510CSD-HCD6TSQMB-1000lm-3000K
Description: 6 INCH SQUARE MEDIUM MATTE BLACK TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3000K CCT
Ballast/Driver: -

Summary

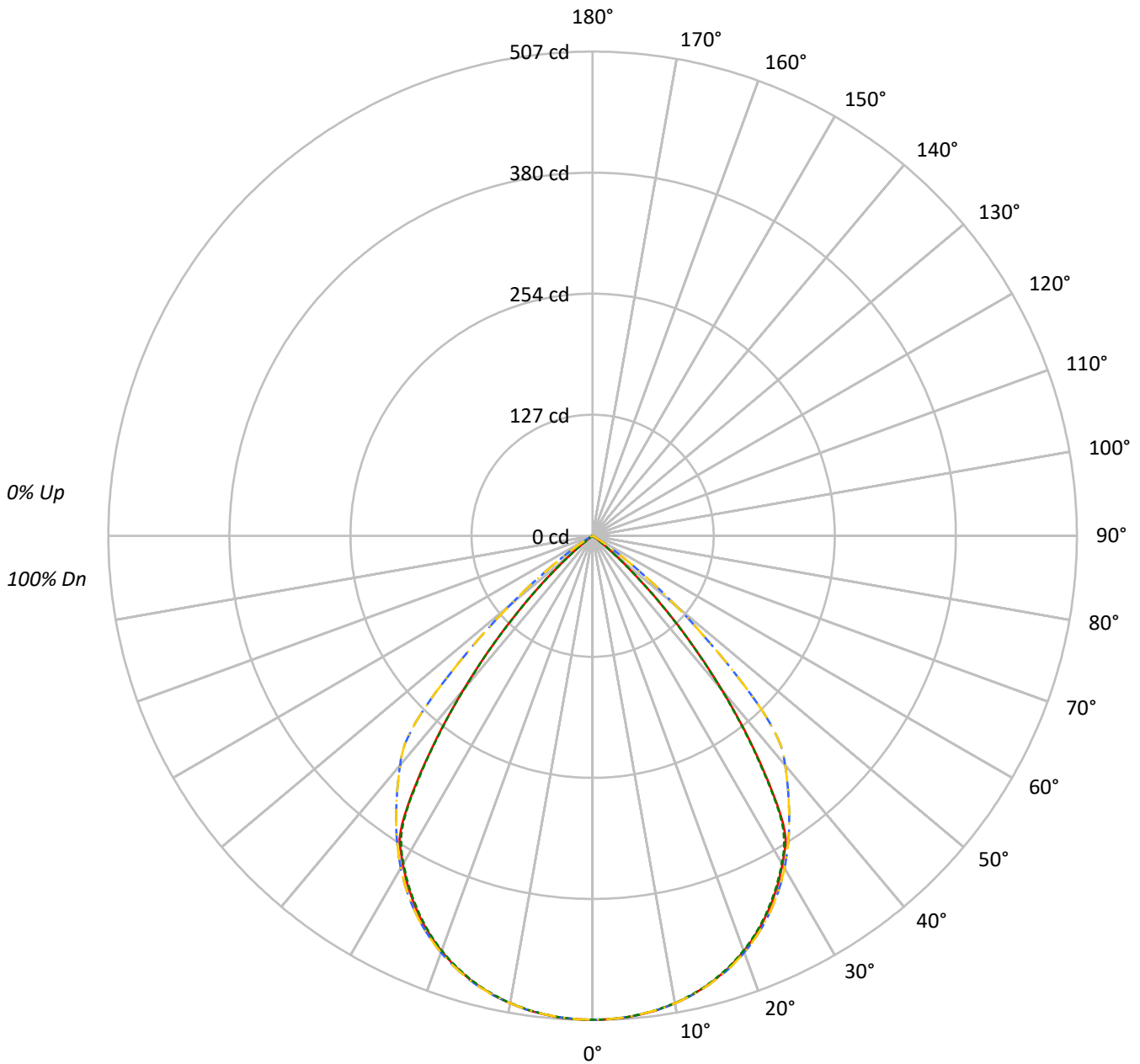
Lumens per Lamp: N/A
Luminaire Lumens: 731.1 lumens
Efficiency: N/A
Efficacy: 73.1 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 1.17 / 1.23
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
CIE Type: Direct

Input Watts (W): 10
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20										
RC	80					70					50					30					10					0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	113	110	107	105	110	108	105	103	104	102	100	100	98	97	96	95	94	92					92			
2	106	101	96	93	104	99	95	92	96	93	90	93	90	88	90	88	86	84					84			
3	100	93	87	83	98	91	86	82	89	84	81	86	83	80	84	81	78	77					77			
4	94	86	79	75	92	84	79	74	82	77	73	80	76	72	78	74	71	70					70			
5	88	79	72	67	87	78	72	67	76	71	66	74	70	66	73	69	65	64					64			
6	83	73	66	61	81	72	66	61	71	65	61	69	64	60	68	63	60	58					58			
7	78	68	61	56	77	67	60	56	66	60	56	64	59	55	63	58	55	53					53			
8	74	63	56	51	72	62	56	51	61	55	51	60	55	51	59	54	51	49					49			
9	69	58	52	47	68	58	52	47	57	51	47	56	51	47	55	50	47	45					45			
10	65	55	48	44	64	54	48	44	53	47	43	52	47	43	52	47	43	42					42			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	21816	21816	21816	21816
5°	21805	21796	21805	21796
10°	21733	21720	21733	21720
15°	21547	21529	21547	21529
20°	21205	21177	21205	21177
25°	20623	20570	20623	20570
30°	19757	19693	19757	19693
35°	17293	17177	17293	17177
40°	11809	11730	11809	11730
45°	6144	6156	6144	6156
50°	1788	1768	1788	1768
55°	53	68	53	68
60°	17	17	17	17
65°	10	10	10	10
70°	13	13	13	13
75°	0	17	0	17
80°	0	0	0	0
85°	0	0	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 14212 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	47.9	6.6
10°-20°	136.3	18.6
20°-30°	200.0	27.4
30°-40°	212.2	29.0
40°-50°	118.5	16.2
50°-60°	16.0	2.2
60°-70°	0.2	0.0
70°-80°	0.1	0.0
80°-90°	0.0	0.0
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	384.2	52.5
0°-40°	596.4	81.6
0°-60°	730.9	100.0
0°-90°	731.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	731.1	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	507	507	507	507	507	
5°	504	504	504	504	504	48
15°	483	483	483	483	483	136
25°	434	433	434	433	434	199
35°	329	327	329	327	329	199
45°	101	101	101	101	101	81
55°	1	1	1	1	1	4
65°	0	0	0	0	0	0
75°	0	0	0	0	0	0
85°	0	0	0	0	0	0
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	506.7	506.7	506.7	506.7	506.7	506.7	506.7	506.7	506.7	506.7	506.7
0.5°	506.9	506.7	506.7	506.6	506.7	506.6	506.7	506.7	506.9	506.7	506.7
1°	506.8	506.7	506.6	506.6	506.7	506.6	506.6	506.7	506.8	506.7	506.6
1.5°	506.7	506.5	506.5	506.5	506.5	506.5	506.5	506.5	506.7	506.5	506.5
2°	506.5	506.4	506.3	506.3	506.4	506.3	506.3	506.4	506.5	506.4	506.3
2.5°	506.3	506.2	506.1	506.1	506.2	506.1	506.1	506.2	506.3	506.2	506.1
3°	506.1	505.9	505.9	505.9	505.9	505.9	505.9	505.9	506.1	505.9	505.9
3.5°	505.8	505.7	505.6	505.6	505.6	505.6	505.6	505.7	505.8	505.7	505.6
4°	505.5	505.3	505.1	505.1	505.3	505.1	505.1	505.3	505.5	505.3	505.1
4.5°	505.0	504.8	504.8	504.7	504.8	504.7	504.8	504.8	505.0	504.8	504.8
5°	504.5	504.4	504.3	504.3	504.3	504.3	504.3	504.4	504.5	504.4	504.3
5.5°	504.0	503.9	503.8	503.8	503.8	503.8	503.8	503.9	504.0	503.9	503.8
6°	503.5	503.4	503.3	503.2	503.3	503.2	503.3	503.4	503.5	503.4	503.3
6.5°	502.9	502.8	502.7	502.7	502.7	502.7	502.7	502.8	502.9	502.8	502.7
7°	502.3	502.2	502.1	502.0	502.0	502.0	502.1	502.2	502.3	502.2	502.1
7.5°	501.6	501.5	501.4	501.3	501.3	501.3	501.4	501.5	501.6	501.5	501.4
8°	500.8	500.7	500.7	500.6	500.6	500.6	500.7	500.7	500.8	500.7	500.7
8.5°	499.9	499.8	499.8	499.7	499.6	499.7	499.8	499.8	499.9	499.8	499.8
9°	499.0	499.0	498.9	498.8	498.7	498.8	498.9	499.0	499.0	499.0	498.9
9.5°	498.1	498.1	498.0	497.9	497.8	497.9	498.0	498.1	498.1	498.1	498.0
10°	497.1	497.1	497.1	496.9	496.8	496.9	497.1	497.1	497.1	497.1	497.1
10.5°	496.1	496.1	496.1	495.9	495.8	495.9	496.1	496.1	496.1	496.1	496.1
11°	494.8	494.9	494.9	494.7	494.5	494.7	494.9	494.9	494.8	494.9	494.9
11.5°	493.7	493.8	493.8	493.5	493.3	493.5	493.8	493.8	493.7	493.8	493.8
12°	492.5	492.6	492.6	492.3	492.1	492.3	492.6	492.6	492.5	492.6	492.6
12.5°	491.2	491.3	491.4	491.0	490.8	491.0	491.4	491.3	491.2	491.3	491.4
13°	489.7	489.9	490.0	489.6	489.3	489.6	490.0	489.9	489.7	489.9	490.0
13.5°	488.3	488.5	488.6	488.2	487.9	488.2	488.6	488.5	488.3	488.5	488.6
14°	486.7	487.0	487.2	486.7	486.4	486.7	487.2	487.0	486.7	487.0	487.2
14.5°	485.1	485.4	485.7	485.1	484.7	485.1	485.7	485.4	485.1	485.4	485.7
15°	483.4	483.8	484.0	483.5	483.0	483.5	484.0	483.8	483.4	483.8	484.0
15.5°	481.8	482.1	482.4	481.8	481.3	481.8	482.4	482.1	481.8	482.1	482.4
16°	479.9	480.3	480.7	480.0	479.4	480.0	480.7	480.3	479.9	480.3	480.7
16.5°	478.1	478.5	478.8	478.2	477.6	478.2	478.8	478.5	478.1	478.5	478.8
17°	476.1	476.7	477.0	476.3	475.5	476.3	477.0	476.7	476.1	476.7	477.0
17.5°	474.1	474.6	475.0	474.3	473.5	474.3	475.0	474.6	474.1	474.6	475.0
18°	472.0	472.6	473.0	472.2	471.4	472.2	473.0	472.6	472.0	472.6	473.0
18.5°	469.8	470.5	471.0	470.1	469.2	470.1	471.0	470.5	469.8	470.5	471.0
19°	467.6	468.3	468.8	467.8	466.9	467.8	468.8	468.3	467.6	468.3	468.8
19.5°	465.2	466.1	466.6	465.5	464.6	465.5	466.6	466.1	465.2	466.1	466.6
20°	462.8	463.7	464.3	463.2	462.2	463.2	464.3	463.7	462.8	463.7	464.3
20.5°	460.3	461.4	462.0	460.7	459.6	460.7	462.0	461.4	460.3	461.4	462.0
21°	457.8	458.8	459.5	458.3	457.0	458.3	459.5	458.8	457.8	458.8	459.5



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
22.5°	449.5	450.8	451.7	450.2	448.6	450.2	451.7	450.8	449.5	450.8	451.7
23°	446.7	448.0	448.9	447.4	445.6	447.4	448.9	448.0	446.7	448.0	448.9
23.5°	443.7	445.1	446.2	444.4	442.6	444.4	446.2	445.1	443.7	445.1	446.2
24°	440.5	442.2	443.2	441.4	439.5	441.4	443.2	442.2	440.5	442.2	443.2
24.5°	437.4	439.0	440.2	438.3	436.4	438.3	440.2	439.0	437.4	439.0	440.2
25°	434.1	435.8	437.1	435.0	433.0	435.0	437.1	435.8	434.1	435.8	437.1
25.5°	430.8	432.6	434.0	431.8	429.6	431.8	434.0	432.6	430.8	432.6	434.0
26°	427.5	429.3	430.7	428.5	426.1	428.5	430.7	429.3	427.5	429.3	430.7
26.5°	424.0	425.8	427.4	425.0	422.7	425.0	427.4	425.8	424.0	425.8	427.4
27°	420.3	422.5	424.0	421.6	419.1	421.6	424.0	422.5	420.3	422.5	424.0
27.5°	416.7	418.9	420.5	417.9	415.5	417.9	420.5	418.9	416.7	418.9	420.5
28°	413.0	415.2	417.0	414.3	411.7	414.3	417.0	415.2	413.0	415.2	417.0
28.5°	409.2	411.5	413.3	410.6	407.9	410.6	413.3	411.5	409.2	411.5	413.3
29°	405.3	407.9	409.5	406.9	404.0	406.9	409.5	407.9	405.3	407.9	409.5
29.5°	401.4	404.0	405.7	403.1	400.1	403.1	405.7	404.0	401.4	404.0	405.7
30°	397.4	400.1	401.8	399.2	396.1	399.2	401.8	400.1	397.4	400.1	401.8
30.5°	393.4	396.2	397.8	395.3	392.1	395.3	397.8	396.2	393.4	396.2	397.8
31°	389.2	392.3	393.7	391.3	387.9	391.3	393.7	392.3	389.2	392.3	393.7
31.5°	385.0	388.3	389.5	387.3	383.6	387.3	389.5	388.3	385.0	388.3	389.5
32°	380.7	384.1	385.3	383.2	378.2	383.2	385.3	384.1	380.7	384.1	385.3
32.5°	376.2	379.9	381.0	379.0	372.7	379.0	381.0	379.9	376.2	379.9	381.0
33°	369.0	375.7	376.6	374.8	366.6	374.8	376.6	375.7	369.0	375.7	376.6
33.5°	361.1	371.5	372.3	370.5	358.5	370.5	372.3	371.5	361.1	371.5	372.3
34°	351.5	367.3	367.8	365.3	349.4	365.3	367.8	367.3	351.5	367.3	367.8
34.5°	340.4	362.7	363.3	359.6	338.6	359.6	363.3	362.7	340.4	362.7	363.3
35°	329.0	355.8	358.8	353.8	326.8	353.8	358.8	355.8	329.0	355.8	358.8
35.5°	317.5	349.1	354.3	346.4	315.0	346.4	354.3	349.1	317.5	349.1	354.3
36°	305.7	340.0	349.7	338.3	303.3	338.3	349.7	340.0	305.7	340.0	349.7
36.5°	293.8	330.4	345.2	328.4	291.7	328.4	345.2	330.4	293.8	330.4	345.2
37°	281.6	319.5	340.7	317.8	279.9	317.8	340.7	319.5	281.6	319.5	340.7
37.5°	269.9	308.6	336.1	306.7	268.2	306.7	336.1	308.6	269.9	308.6	336.1
38°	257.6	297.3	331.6	295.4	256.5	295.4	331.6	297.3	257.6	297.3	331.6
38.5°	245.8	286.1	327.0	284.3	244.7	284.3	327.0	286.1	245.8	286.1	327.0
39°	233.9	274.7	322.6	273.2	232.6	273.2	322.6	274.7	233.9	274.7	322.6
39.5°	222.1	263.4	318.2	262.2	220.7	262.2	318.2	263.4	222.1	263.4	318.2
40°	210.1	252.0	313.7	251.1	208.7	251.1	313.7	252.0	210.1	252.0	313.7
40.5°	198.3	240.8	309.2	239.9	197.1	239.9	309.2	240.8	198.3	240.8	309.2
41°	186.9	229.6	304.6	228.7	185.6	228.7	304.6	229.6	186.9	229.6	304.6
41.5°	175.5	218.3	299.5	217.4	174.5	217.4	299.5	218.3	175.5	218.3	299.5
42°	164.0	207.1	293.8	206.2	163.4	206.2	293.8	207.1	164.0	207.1	293.8
42.5°	153.1	196.1	286.3	195.1	152.4	195.1	286.3	196.1	153.1	196.1	286.3
43°	142.2	185.0	277.8	184.1	141.7	184.1	277.8	185.0	142.2	185.0	277.8
43.5°	131.6	174.1	268.8	173.4	131.0	173.4	268.8	174.1	131.6	174.1	268.8



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	100.9	142.6	233.4	142.2	101.1	142.2	233.4	142.6	100.9	142.6	233.4
45.5°	91.8	132.4	220.2	132.1	91.8	132.1	220.2	132.4	91.8	132.4	220.2
46°	82.8	122.4	207.0	122.1	82.8	122.1	207.0	122.4	82.8	122.4	207.0
46.5°	73.9	112.6	194.0	112.3	73.7	112.3	194.0	112.6	73.9	112.6	194.0
47°	65.2	103.0	181.1	103.0	64.9	103.0	181.1	103.0	65.2	103.0	181.1
47.5°	56.9	93.9	168.7	94.0	57.0	94.0	168.7	93.9	56.9	93.9	168.7
48°	49.5	85.1	156.8	85.1	49.5	85.1	156.8	85.1	49.5	85.1	156.8
48.5°	42.8	76.6	145.2	76.5	42.7	76.5	145.2	76.6	42.8	76.6	145.2
49°	37.2	68.1	134.0	68.0	36.2	68.0	134.0	68.1	37.2	68.1	134.0
49.5°	31.8	59.9	123.1	59.9	31.2	59.9	123.1	59.9	31.8	59.9	123.1
50°	26.7	52.5	112.5	52.5	26.4	52.5	112.5	52.5	26.7	52.5	112.5
50.5°	22.0	45.9	102.3	45.3	21.8	45.3	102.3	45.9	22.0	45.9	102.3
51°	18.1	39.7	93.1	38.8	18.1	38.8	93.1	39.7	18.1	39.7	93.1
51.5°	14.5	34.3	84.1	33.5	14.2	33.5	84.1	34.3	14.5	34.3	84.1
52°	11.5	29.0	75.3	28.4	10.9	28.4	75.3	29.0	11.5	29.0	75.3
52.5°	8.7	24.1	66.8	23.5	7.8	23.5	66.8	24.1	8.7	24.1	66.8
53°	5.8	19.7	58.8	19.3	4.8	19.3	58.8	19.7	5.8	19.7	58.8
53.5°	3.9	15.7	51.5	15.1	2.9	15.1	51.5	15.7	3.9	15.7	51.5
54°	1.8	12.7	44.8	11.7	1.6	11.7	44.8	12.7	1.8	12.7	44.8
54.5°	1.1	9.7	39.0	8.7	1.2	8.7	39.0	9.7	1.1	9.7	39.0
55°	0.7	6.7	33.5	5.7	0.9	5.7	33.5	6.7	0.7	6.7	33.5
55.5°	0.3	4.3	28.4	3.9	0.6	3.9	28.4	4.3	0.3	4.3	28.4
56°	0.2	1.8	23.7	2.9	0.3	2.9	23.7	1.8	0.2	1.8	23.7
56.5°	0.2	0.9	19.2	1.7	0.2	1.7	19.2	0.9	0.2	0.9	19.2
57°	0.2	0.5	15.6	0.9	0.2	0.9	15.6	0.5	0.2	0.5	15.6
57.5°	0.2	0.4	12.6	0.4	0.2	0.4	12.6	0.4	0.2	0.4	12.6
58°	0.2	0.2	10.1	0.2	0.2	0.2	10.1	0.2	0.2	0.2	10.1
58.5°	0.2	0.2	7.9	0.2	0.2	0.2	7.9	0.2	0.2	0.2	7.9
59°	0.2	0.2	5.8	0.2	0.2	0.2	5.8	0.2	0.2	0.2	5.8
59.5°	0.2	0.2	4.3	0.2	0.2	0.2	4.3	0.2	0.2	0.2	4.3
60°	0.2	0.2	3.0	0.2	0.2	0.2	3.0	0.2	0.2	0.2	3.0
60.5°	0.2	0.2	2.0	0.2	0.2	0.2	2.0	0.2	0.2	0.2	2.0
61°	0.2	0.2	1.3	0.2	0.2	0.2	1.3	0.2	0.2	0.2	1.3
61.5°	0.2	0.2	0.8	0.2	0.2	0.2	0.8	0.2	0.2	0.2	0.8
62°	0.1	0.1	0.4	0.2	0.2	0.2	0.4	0.1	0.1	0.1	0.4
62.5°	0.1	0.1	0.3	0.1	0.1	0.1	0.3	0.1	0.1	0.1	0.3
63°	0.1	0.1	0.2	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.2
63.5°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
64°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
64.5°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
65°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
65.5°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
66°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1



TEST NUMBER: P775806

CATALOG NUMBER: HCDJBL510CSD-HCD6TSQMB-1000lm-3000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
68°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
68.5°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
69°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
69.5°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
70°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
70.5°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
71°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
71.5°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
72°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
72.5°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
73°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
73.5°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
74°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
74.5°	0.1	0.1	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.0
75°	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0
75.5°	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0
76°	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
76.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
78°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
78.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
79°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
79.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
81°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
81.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
83°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
83.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
84°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
84.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
86°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
86.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
88°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
88.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P775806

CATALOG NUMBER: HCDJBL510CSD-HCD6TSQMB-1000lm-3000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P775806

CATALOG NUMBER: HCDJBL510CSD-HCD6TSQMB-1000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	506.7	506.7	506.7	506.7	506.7	506.7
0.5°	506.6	506.7	506.6	506.7	506.7	506.9
1°	506.6	506.7	506.6	506.6	506.7	506.8
1.5°	506.5	506.5	506.5	506.5	506.5	506.7
2°	506.3	506.4	506.3	506.3	506.4	506.5
2.5°	506.1	506.2	506.1	506.1	506.2	506.3
3°	505.9	505.9	505.9	505.9	505.9	506.1
3.5°	505.6	505.6	505.6	505.6	505.7	505.8
4°	505.1	505.3	505.1	505.1	505.3	505.5
4.5°	504.7	504.8	504.7	504.8	504.8	505.0
5°	504.3	504.3	504.3	504.3	504.4	504.5
5.5°	503.8	503.8	503.8	503.8	503.9	504.0
6°	503.2	503.3	503.2	503.3	503.4	503.5
6.5°	502.7	502.7	502.7	502.7	502.8	502.9
7°	502.0	502.0	502.0	502.1	502.2	502.3
7.5°	501.3	501.3	501.3	501.4	501.5	501.6
8°	500.6	500.6	500.6	500.7	500.7	500.8
8.5°	499.7	499.6	499.7	499.8	499.8	499.9
9°	498.8	498.7	498.8	498.9	499.0	499.0
9.5°	497.9	497.8	497.9	498.0	498.1	498.1
10°	496.9	496.8	496.9	497.1	497.1	497.1
10.5°	495.9	495.8	495.9	496.1	496.1	496.1
11°	494.7	494.5	494.7	494.9	494.9	494.8
11.5°	493.5	493.3	493.5	493.8	493.8	493.7
12°	492.3	492.1	492.3	492.6	492.6	492.5
12.5°	491.0	490.8	491.0	491.4	491.3	491.2
13°	489.6	489.3	489.6	490.0	489.9	489.7
13.5°	488.2	487.9	488.2	488.6	488.5	488.3
14°	486.7	486.4	486.7	487.2	487.0	486.7
14.5°	485.1	484.7	485.1	485.7	485.4	485.1
15°	483.5	483.0	483.5	484.0	483.8	483.4
15.5°	481.8	481.3	481.8	482.4	482.1	481.8
16°	480.0	479.4	480.0	480.7	480.3	479.9
16.5°	478.2	477.6	478.2	478.8	478.5	478.1
17°	476.3	475.5	476.3	477.0	476.7	476.1
17.5°	474.3	473.5	474.3	475.0	474.6	474.1
18°	472.2	471.4	472.2	473.0	472.6	472.0
18.5°	470.1	469.2	470.1	471.0	470.5	469.8
19°	467.8	466.9	467.8	468.8	468.3	467.6
19.5°	465.5	464.6	465.5	466.6	466.1	465.2
20°	463.2	462.2	463.2	464.3	463.7	462.8
20.5°	460.7	459.6	460.7	462.0	461.4	460.3
21°	458.3	457.0	458.3	459.5	458.8	457.8

TEST NUMBER: P775806

CATALOG NUMBER: HCDJBL510CSD-HCD6TSQMB-1000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	450.2	448.6	450.2	451.7	450.8	449.5
23°	447.4	445.6	447.4	448.9	448.0	446.7
23.5°	444.4	442.6	444.4	446.2	445.1	443.7
24°	441.4	439.5	441.4	443.2	442.2	440.5
24.5°	438.3	436.4	438.3	440.2	439.0	437.4
25°	435.0	433.0	435.0	437.1	435.8	434.1
25.5°	431.8	429.6	431.8	434.0	432.6	430.8
26°	428.5	426.1	428.5	430.7	429.3	427.5
26.5°	425.0	422.7	425.0	427.4	425.8	424.0
27°	421.6	419.1	421.6	424.0	422.5	420.3
27.5°	417.9	415.5	417.9	420.5	418.9	416.7
28°	414.3	411.7	414.3	417.0	415.2	413.0
28.5°	410.6	407.9	410.6	413.3	411.5	409.2
29°	406.9	404.0	406.9	409.5	407.9	405.3
29.5°	403.1	400.1	403.1	405.7	404.0	401.4
30°	399.2	396.1	399.2	401.8	400.1	397.4
30.5°	395.3	392.1	395.3	397.8	396.2	393.4
31°	391.3	387.9	391.3	393.7	392.3	389.2
31.5°	387.3	383.6	387.3	389.5	388.3	385.0
32°	383.2	378.2	383.2	385.3	384.1	380.7
32.5°	379.0	372.7	379.0	381.0	379.9	376.2
33°	374.8	366.6	374.8	376.6	375.7	369.0
33.5°	370.5	358.5	370.5	372.3	371.5	361.1
34°	365.3	349.4	365.3	367.8	367.3	351.5
34.5°	359.6	338.6	359.6	363.3	362.7	340.4
35°	353.8	326.8	353.8	358.8	355.8	329.0
35.5°	346.4	315.0	346.4	354.3	349.1	317.5
36°	338.3	303.3	338.3	349.7	340.0	305.7
36.5°	328.4	291.7	328.4	345.2	330.4	293.8
37°	317.8	279.9	317.8	340.7	319.5	281.6
37.5°	306.7	268.2	306.7	336.1	308.6	269.9
38°	295.4	256.5	295.4	331.6	297.3	257.6
38.5°	284.3	244.7	284.3	327.0	286.1	245.8
39°	273.2	232.6	273.2	322.6	274.7	233.9
39.5°	262.2	220.7	262.2	318.2	263.4	222.1
40°	251.1	208.7	251.1	313.7	252.0	210.1
40.5°	239.9	197.1	239.9	309.2	240.8	198.3
41°	228.7	185.6	228.7	304.6	229.6	186.9
41.5°	217.4	174.5	217.4	299.5	218.3	175.5
42°	206.2	163.4	206.2	293.8	207.1	164.0
42.5°	195.1	152.4	195.1	286.3	196.1	153.1
43°	184.1	141.7	184.1	277.8	185.0	142.2
43.5°	173.4	131.0	173.4	268.8	174.1	131.6



TEST NUMBER: P775806

CATALOG NUMBER: HCDJBL510CSD-HCD6TSQMB-1000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	142.2	101.1	142.2	233.4	142.6	100.9
45.5°	132.1	91.8	132.1	220.2	132.4	91.8
46°	122.1	82.8	122.1	207.0	122.4	82.8
46.5°	112.3	73.7	112.3	194.0	112.6	73.9
47°	103.0	64.9	103.0	181.1	103.0	65.2
47.5°	94.0	57.0	94.0	168.7	93.9	56.9
48°	85.1	49.5	85.1	156.8	85.1	49.5
48.5°	76.5	42.7	76.5	145.2	76.6	42.8
49°	68.0	36.2	68.0	134.0	68.1	37.2
49.5°	59.9	31.2	59.9	123.1	59.9	31.8
50°	52.5	26.4	52.5	112.5	52.5	26.7
50.5°	45.3	21.8	45.3	102.3	45.9	22.0
51°	38.8	18.1	38.8	93.1	39.7	18.1
51.5°	33.5	14.2	33.5	84.1	34.3	14.5
52°	28.4	10.9	28.4	75.3	29.0	11.5
52.5°	23.5	7.8	23.5	66.8	24.1	8.7
53°	19.3	4.8	19.3	58.8	19.7	5.8
53.5°	15.1	2.9	15.1	51.5	15.7	3.9
54°	11.7	1.6	11.7	44.8	12.7	1.8
54.5°	8.7	1.2	8.7	39.0	9.7	1.1
55°	5.7	0.9	5.7	33.5	6.7	0.7
55.5°	3.9	0.6	3.9	28.4	4.3	0.3
56°	2.9	0.3	2.9	23.7	1.8	0.2
56.5°	1.7	0.2	1.7	19.2	0.9	0.2
57°	0.9	0.2	0.9	15.6	0.5	0.2
57.5°	0.4	0.2	0.4	12.6	0.4	0.2
58°	0.2	0.2	0.2	10.1	0.2	0.2
58.5°	0.2	0.2	0.2	7.9	0.2	0.2
59°	0.2	0.2	0.2	5.8	0.2	0.2
59.5°	0.2	0.2	0.2	4.3	0.2	0.2
60°	0.2	0.2	0.2	3.0	0.2	0.2
60.5°	0.2	0.2	0.2	2.0	0.2	0.2
61°	0.2	0.2	0.2	1.3	0.2	0.2
61.5°	0.2	0.2	0.2	0.8	0.2	0.2
62°	0.2	0.2	0.2	0.4	0.1	0.1
62.5°	0.1	0.1	0.1	0.3	0.1	0.1
63°	0.1	0.1	0.1	0.2	0.1	0.1
63.5°	0.1	0.1	0.1	0.1	0.1	0.1
64°	0.1	0.1	0.1	0.1	0.1	0.1
64.5°	0.1	0.1	0.1	0.1	0.1	0.1
65°	0.1	0.1	0.1	0.1	0.1	0.1
65.5°	0.1	0.1	0.1	0.1	0.1	0.1
66°	0.1	0.1	0.1	0.1	0.1	0.1



TEST NUMBER: P775806

CATALOG NUMBER: HCDJBL510CSD-HCD6TSQMB-1000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	0.1	0.1	0.1	0.1	0.1	0.1
68°	0.1	0.1	0.1	0.1	0.1	0.1
68.5°	0.1	0.1	0.1	0.1	0.1	0.1
69°	0.1	0.1	0.1	0.1	0.1	0.1
69.5°	0.1	0.1	0.1	0.1	0.1	0.1
70°	0.1	0.1	0.1	0.1	0.1	0.1
70.5°	0.1	0.1	0.1	0.1	0.1	0.1
71°	0.1	0.1	0.1	0.1	0.1	0.1
71.5°	0.1	0.1	0.1	0.1	0.1	0.1
72°	0.1	0.1	0.1	0.1	0.1	0.1
72.5°	0.1	0.1	0.1	0.1	0.1	0.1
73°	0.1	0.1	0.1	0.1	0.1	0.1
73.5°	0.1	0.1	0.1	0.1	0.1	0.1
74°	0.1	0.1	0.1	0.1	0.1	0.1
74.5°	0.1	0.1	0.1	0.0	0.1	0.1
75°	0.1	0.1	0.1	0.0	0.0	0.0
75.5°	0.1	0.1	0.1	0.0	0.0	0.0
76°	0.0	0.1	0.0	0.0	0.0	0.0
76.5°	0.0	0.0	0.0	0.0	0.0	0.0
77°	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	0.0	0.0	0.0	0.0	0.0	0.0
78°	0.0	0.0	0.0	0.0	0.0	0.0
78.5°	0.0	0.0	0.0	0.0	0.0	0.0
79°	0.0	0.0	0.0	0.0	0.0	0.0
79.5°	0.0	0.0	0.0	0.0	0.0	0.0
80°	0.0	0.0	0.0	0.0	0.0	0.0
80.5°	0.0	0.0	0.0	0.0	0.0	0.0
81°	0.0	0.0	0.0	0.0	0.0	0.0
81.5°	0.0	0.0	0.0	0.0	0.0	0.0
82°	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0
83°	0.0	0.0	0.0	0.0	0.0	0.0
83.5°	0.0	0.0	0.0	0.0	0.0	0.0
84°	0.0	0.0	0.0	0.0	0.0	0.0
84.5°	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0
85.5°	0.0	0.0	0.0	0.0	0.0	0.0
86°	0.0	0.0	0.0	0.0	0.0	0.0
86.5°	0.0	0.0	0.0	0.0	0.0	0.0
87°	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0
88°	0.0	0.0	0.0	0.0	0.0	0.0
88.5°	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P775806

CATALOG NUMBER: HCDJBL510CSD-HCD6TSQMB-1000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
90°	0.0	0.0	0.0	0.0	0.0	0.0



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— 0°-180° - - 45°-225° - - - - 90°-270° - · - 135°-315°

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21.5°	455.1	456.3	457.0	455.6	454.2	455.6	457.0	456.3	455.1	456.3	457.0
22°	452.4	453.6	454.3	453.0	451.5	453.0	454.3	453.6	452.4	453.6	454.3



44°	121.1	163.3	257.7	162.8	120.5	162.8	257.7	163.3	121.1	163.3	257.7
44.5°	111.0	152.9	245.8	152.5	110.5	152.5	245.8	152.9	111.0	152.9	245.8



66.5°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
67°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1



89°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
89.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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21.5°	455.6	454.2	455.6	457.0	456.3	455.1
22°	453.0	451.5	453.0	454.3	453.6	452.4

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44°	162.8	120.5	162.8	257.7	163.3	121.1
44.5°	152.5	110.5	152.5	245.8	152.9	111.0

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66.5°	0.1	0.1	0.1	0.1	0.1	0.1
67°	0.1	0.1	0.1	0.1	0.1	0.1

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89°	0.0	0.0	0.0	0.0	0.0	0.0
89.5°	0.0	0.0	0.0	0.0	0.0	0.0

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(END OF REPORT)